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Quality Engineering Test Report

SERIES: T-40

40W AC-DC TRIPLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE: A.T-40A

V1: 5V / 3A

B.T-40B

V1: 5V/ 3A

C.T-40C

V1: 5V/ 3A

V2: 12V / 2A

V2: 12V/ 2A

V2: 15V/ 1.5A

V3: -5V / 0.5A

V3: -12V/ 0.5A

V3: -15V/ 0.5A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION		RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING O/P:FULL LOAD	SPEC:85~264VAC	A:65VAC~267VAC	P
2	LINE REGULATION	I/P:85~264VAC O/P:FULL LOAD	SPEC: A: V1 $\pm 0.5\%$ V2 $\pm 1\%$ V3 $\pm 1\%$ B: V1 $\pm 0.5\%$ V2 $\pm 1\%$ V3 $\pm 1\%$ C: V1 $\pm 0.5\%$ V2 $\pm 1\%$ V3 $\pm 1\%$	A: V1: 0.00% ~ 0.00% V2: -0.05% ~ +0.61% V3: 0.00% ~ +0.48% B: V1: 0.00% ~ 0.00% V2: 0.00% ~ +0.46% V3: +0.10% ~ +0.42% C: V1: 0.00% ~ 0.00% V2: 0.00% ~ +0.90% V3: -0.08% ~ -0.70%	P
3	LOAD REGULATION	I/P:230VAC O/P:MIN. TO FULL LOAD	SPEC: A: V1 $\pm 0.5\%$ V2 $\pm 4\%$ V3 $\pm 6\%$ B: V1 $\pm 0.5\%$ V2 $\pm 4\%$ V3 $\pm 6\%$ C: V1 $\pm 0.5\%$ V2 $\pm 4\%$ V3 $\pm 4\%$	A: V1: 0.00% ~ +0.12% V2: +0.03% ~ +0.35% V3: -0.01% ~ +0.83% B: V1: -0.12% ~ 0.00% V2: +0.20% ~ +0.25% V3: -1.80% ~ +0.69% C: V1: -0.12% ~ 0.00% V2: -0.23% ~ +0.32% V3: -1.58% ~ +0.75%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:85~264VAC O/P:MIN. TO FULL LOAD	SPEC: A: V1 $\pm 2\%$ V2 $\pm 6\%$ V3 $\pm 8\%$ B: V1 $\pm 2\%$ V2 $\pm 6\%$ V3 $\pm 8\%$ C: V1 $\pm 2\%$ V2 $\pm 6\%$ V3 $\pm 6\%$	A: V1: -0.12% ~ +0.24% V2: -2.34% ~ +4.85% V3: -5.76% ~ +6.74% B: V1: -0.12% ~ +0.12% V2: -2.55% ~ +4.64% V3: -3.33% ~ +7.8% C: V1: -0.14% ~ 0.00% V2: -1.83% ~ +4.87% V3: -2.46% ~ +5.00%	P
5	RIPPLE&NOISE	I/P:230VAC O/P:FULL LOAD	SPEC: A: V1 :100mV V2 :120mV V3 :100mV B: V1 :100mV V2 :120mV V3 :120mV C: V1 :100mV V2 :120mV V3 :120mV	A: V1: 12mV V2: 15mV V3: 9mV B: V1: 10mV V2: 12mV V3: 13mV C: V1: 9mV V2: 12mV V3: 12mV	P
6	AC INPUT CURRENT	I/P:115VAC O/P:FULL LOAD	SPEC:1.2A	A:0.86A	P
7	MAX. INRUSH CURREN	I/P:230VAC O/P: FULL LOAD	SPEC:40A	A:26A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC O/P:MIN. LOAD	SPEC: A: -5%~+10% B: -5%~+10% C: -5%~+10%	A: 4.52V~5.83V B: 4.57V~5.83V C: 4.47V~5.77V	P
9	SET UP TIME	I/P:230VAC O/P:FULL LOAD	SPEC:800mS	A: 554mS	P
10	HOLD UP TIME	I/P:230VAC O/P:FULL LOAD	SPEC:60mS	A: 81mS	P
11	EFFICIENCY	I/P:115VAC O/P:FULL LOAD	SPEC: A:72% B:72% C:72%	A:72.614% B:73.38% C:73.83%	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																												
12	OVER LOAD PROTECTION	I/P:115VAC SPEC:105%~150% O/P:TESTING	A:129% B:143% C:142%	P																												
13	OVER VOLTAGE PROTECTION	I/P:230VAC SPEC:5.75~6.75V O/P:TESTING	A:6.19V B:6.19V C:6.19V	P																												
14	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG-<3.5mA N-FG-<3.5mA	A: L-FG:0.73mA N-FG:0.66mA	P																												
15	INSULATION RESISTANCE	SPEC: O/P-FG 500VDC/100M Ohms MIN. I/P-O/P 500VDC/100M Ohms MIN. I/P-FG 500VDC/100M Ohms MIN.	A: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms	P																												
16	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 3KVAC/ 1 min.(10mA CUT-OFF) I/P - FG: 1.5KVAC/ 1 min.(10mA CUT-OFF) O/P -FG: 0.5KVAC/ 1 min.(10mA CUT-OFF)	A: I/P-O/P :4.85mA I/P-FG :4.87mA O/P-FG :3.56mA	P																												
17	EMS TEST	EFT TEST: EN50082-1 IEC1000-4-4	A: CRITERIA A OK	P																												
		SURGE TEST: EN50082-1 IEC1000-4-5	A: CRITERIA A OK	P																												
18	BURN-IN TEST	I/P: 230VAC O/P: FULL LOAD TA: 24°C BURN-IN DURATION : 3.5 hrs	A:NON BREAK	P																												
19	ENVIRONMENT TEST (SAMPLE C:)	HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:44.3°C	A:AFTER 2.67 hrs NON BREAK	P																												
20	TEMPERATURE RISE TEST T rise OF PARTS	A: I/P :230VAC AFTER 3.5 hr BURN-IN O/P :FULL LOAD TA:24°C <table><tr><td>POSITION</td><td>P/N</td><td>TEMP</td><td>T rise</td></tr><tr><td>BD1</td><td>BRIDGE DIODE</td><td>64.3°C</td><td>40.3°C</td></tr><tr><td>Q1</td><td>MAIN TRANSISTOR</td><td>67°C</td><td>43°C</td></tr><tr><td>T1</td><td>MAIN TRANSFORMER WIRE</td><td>75.9°C</td><td>51.9°C</td></tr><tr><td>D4</td><td>O/P DIODE</td><td>69.6°C</td><td>45.6°C</td></tr><tr><td>C21</td><td>O/P FILTER CAPACITOR</td><td>76.6°C</td><td>52.6°C</td></tr><tr><td>C5</td><td>I/P FILTER CAPACITOR</td><td>57.7°C</td><td>33.7°C</td></tr></table>		POSITION	P/N	TEMP	T rise	BD1	BRIDGE DIODE	64.3°C	40.3°C	Q1	MAIN TRANSISTOR	67°C	43°C	T1	MAIN TRANSFORMER WIRE	75.9°C	51.9°C	D4	O/P DIODE	69.6°C	45.6°C	C21	O/P FILTER CAPACITOR	76.6°C	52.6°C	C5	I/P FILTER CAPACITOR	57.7°C	33.7°C	P
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21	LIFE CYCLE	A: SUPPOSE C21 IS THE MOST CRITICAL COMPONENT I/P:230VAC O/P:FULL LOAD Ta:25°C Tc21:77.6°C Life: 34223 hrs I/P:230VAC O/P:FULL LOAD Ta:45°C Tc21:89.8°C Life: 14691 hrs		P																												
22	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	A: FUSE :3AL/250V BRIDGE DIODE :D3BX60 LINE FILTER :TF411 ET-24 TRANSFOMER :TF144-R2 EER-28L POWER SWITCHER :2SK727 TO-3P OUTPUT DIODE :SF5LC20U TO-220F OUTPUT CAPACITOR :ELNA 820uF/16V 105°C RJH INPUT CAPACITOR :HITACHI 100uF/400V 105°C P.C.B :T-40-R4 CEM-1 2 OZ SS																														
DATE	SAMPLE	NOTE	TEST	APPROVAL																												
19980529	T-40	PASS	H.C.LIOU	Max Lin																												
19990518	T-40	PASS	H.C.LIOU	Max Lin																												

[PREVIOUS](#)